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ABSTRACT

A study examined the career progression of individuals in the following occupations: registered nurse; physical therapist; medical laboratory technologist; paramedic; ranked corrections officer; dental hygienist; electronic technician; pipefitter/plumber; social worker; and auto body shop manager. Researchers conducted face-to-face interviews in the Austin, Texas, metropolitan area with 5-10 individuals in each occupation. Participants were identified and recruited through professional or employer associations, training or educational providers, and personal referrals. One half of the respondents entered their occupation directly at the apex position. Little more than one-third began their careers at the identified entry occupation. Success appeared to be associated with continuous education and training, persistence in the occupational field, and hard work. Persistence was associated with truly enjoying the work, income opportunities, and employment benefits. Higher degree expectations appeared to be becoming the norm for most of the occupations studied. Employers commonly provided continuous training opportunities on the job to keep their work force viable and/or maintain licensure. Seniority played virtually no role in promotions. Career advancement was associated with ability, experience, and education. The study confirmed the importance of continuous training and higher education in today's labor market. (The interview guide and contact strategies for the Career Pathways Project are appended.) (MN)

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Successful Career Progression: Exploratory Findings from a Study of Selected Occupations

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Executive Summary

The Center for the Study of Human Resources (CSHR) of the Lyndon B. Johnson School of Public Affairs at The University of Texas-Austin prepared this report for the Texas State Occupational Information Coordinating Committee (SOICC) to present preliminary findings regarding the career progression of individuals in ten occupations. The project was designed to explore the education, training, and work experiences of individuals who are successful in these occupations as a possible basis for career guidance information and further research. The occupations were selected as probable "apex" occupations projected from "entry" occupations for which job placements are currently favorable.

Researchers conducted face-to-face interviews in the Austin metropolitan area with between five and ten individuals in each occupation. Participants were identified and recruited through professional or employer associations, training or educational providers, and personal referrals. Because of the convenience sampling and small numbers of participants, findings are anecdotal and are not generalizable.

Observations

Interviews with the small sample of respondents and occupations in the exploratory research revealed the following observations:

- One-half of the respondents entered directly at the apex position. Little more than one-third began their careers at the identified entry occupation and most of these were concentrated in two occupations.
- Success appears to be associated with several factors, including continuous education and training, persistence in the occupational field and hard work.
- Persistence is associated with truly enjoying the work, income opportunities and employment benefits.
- The educational requirements for employment appear to be changing. Higher degree expectations are the norm for the majority of these occupations.
- Employers commonly provide continuous training opportunities on the job to keep their workforce viable and/or maintain licensure. Such training is not associated with promotions; more academic pursuits that accelerate career advancement are funded by employees themselves.
- Seniority plays virtually no role in promotions; career advancement is associated with ability, experience and education.

Implications

The preliminary observations from this limited-sample exploration raise research and policy concerns. The application of the career progression concept in today's labor market, as well as the concept of entry and apex occupations, is certainly questionable. The majority of the respondents entered their field in an apex occupation. Among those who began their successful careers with low-skill, low-wage jobs, these entry positions were skill-building opportunities, an investment in the future.

The implication of these observations for policy is significant given the slippage in the human capital development model in our workforce development system for the majority of the less-competitive workers and its replacement by a Work-First orientation. Continuous education and training, as well as higher education, are crucial components of success in today's labor markets.

Successful Career Progression:

Exploratory Findings from a Study of Selected Occupations

I. Introduction

A. Project Overview and Purpose

Researchers from the Center for the Study of Human Resources (CSHR) of the LBJ School of Public Affairs at The University of Texas-Austin have collected experiential data regarding progressions to occupational success for the Texas State Occupational Information Coordinating Committee (SOICC). To do so, researchers conducted interviews with individuals in ten "apex" occupations deemed as projected potential outcomes for certain entry-level occupations for which employment placements are currently favorable. The purpose of the interviews was to explore features associated with occupational success among these individuals and to document education, training, and work histories from their entry into the field through their current occupational status. This report presents the results of the exploratory investigation.

SOICC and CSHR undertook the research effort with several potential applications in mind. Results may provide experiential depictions that help to inform decision-making among prospective entrants into these occupational areas. Observations may also complement and inform statistical analyses conducted by SOICC in pursuit of its institutional mission as a coordinator of occupational information. Lastly, results may provide a basis for further research and analysis regarding progressions to career success.

B. Career Ladders and Labor Markets

This report explores career ladders or paths in ten occupations that have offered workers some degree of success as measured by increased earnings and career progression over time. These career paths should be viewed in the larger context within which they exist.

Analysts often refer simply to "the labor market" when there are actually a number of major market types, each with its own distinctive characteristics and features. In the 19th Century, dominated as it was by agriculture and small shops, labor markets tended to be largely unfettered, lacking structure, formal rules or regulations or significant union presence. In these markets, labor was allocated and priced according to relatively direct market forces. The 20th Century, especially since the 1940s, has seen the rise of what are referred to as internal labor markets (Doeringer and Piore 1971). Such markets are somewhat insulated from direct market forces, except at "ports of entry/exit," and both the pricing and allocation of labor tends to be governed by administrative rules,

procedures and custom. Career ladders with structured paths to occupational progress and earnings growth are far more likely to be found in internal than external markets.

John Dunlop (1994, pp. 382ff.) further distinguishes at least eight major labor market types, accounting for estimated 1990 shares of total employment, as follows:

1.	Small enterprises	28.2%
2.	Worker pools	6.4%
3.	Owner-operators	1.8%
4.	Civil Service	16.4%
5.	Multi-tier internal labor markets	13.6%
6.	Short-tier internal labor markets	13.6%
7.	Clerical-oriented organizations	10.9%
8.	Technical and professional amalgams	9.1%

Small enterprises, the first market type account for the overwhelming majority of employing units in the United States but only contribute slightly more than one in four jobs. It is in these enterprises that the labor market as it is typically pictured—ad hoc decisions on an individualized basis with each person paid according to their worth to the employer and few if any employee benefits—tends to operate. Internal labor market characteristics, including more highly structured career pathways, tend to be found more in the middle classifications, especially Civil Service and both Short- and Multi-tier internal markets which may account for around 43-44 percent of all employment.

There is considerable debate presently about the extent to which globalization, technological change and other forces are diminishing the incidence of more structured labor markets and enhancing the operation of more general market forces across the occupational spectrum (Cappelli 1995; King, McPherson and Long 1999; Groshen and Levine 1998). Cappelli (1995) and others suggest that these forces may be opening up larger areas of the workforce to unfettered market forces, truncating job ladders and increasing employers' reliance on contracting out and temporary employment generally. They may also be encouraging employers to off-load more of their internal training and turn instead to outside sources (e.g., community colleges, other employers).

This research was not designed to address these issues explicitly. Yet, workers in most of the occupations selected for study work in structured, hierarchical workplace settings (e.g., hospitals, government) or in fields that are highly regulated (e.g., nursing) or that have a strong union or association presence (e.g., social work, plumbing/pipe fitting). Thus, the presence of internal labor markets and their characteristic patterns were expected.

C. Research Approach

Methods

Researchers conducted face-to-face interviews lasting approximately thirty minutes at the informant's home, workplace or an alternative site, whichever was most convenient for the informant.[1] To recruit participants, researchers solicited contact information from employers, education and training providers, and occupational, trade and professional associations affiliated with the apex occupation. Researchers prepared a structured interview guide to collect data (Attachment A), and conducted informal interviews/conversations with voluntary participants using the guide. The interview guide/instrument included direct and open-ended questions regarding education, training, and work-based events, experiences, and outcomes. SOICC staff reviewed and commented upon the guide for comprehensiveness regarding key topics of interest to the exploratory research. Data was collected from individuals working in apex occupations (see below) in the Austin metropolitan area between February 1, 1999 and March 23, 1999.

Researchers prepared a qualitative analysis of interview data. Information elicited during structured conversations was coded or narratively summarized and entered into an Excel database. Data summaries—both narratives and coded data distributions—provided the basis for observations in each occupation. CSHR researchers collectively discussed principal observations in each occupation and used these to induce cross-site observations.

Occupational Selection Criteria

The CSHR target sample consisted of individuals in the apex occupations projected from SOICC's observed entry-level placements. SOICC selected ten entry-level occupations from among 25 occupations with documented success according to their placement data. SOICC eliminated a few high-placement occupations because they offered no distinctive possibility for advancement (e.g., registered nurse). SOICC recommended ten apex occupations from these entry occupations. For the purposes of this investigation, an apex occupation is an occupation deemed to be a likely career high point projected from the observed entry-level occupation. (CHR suggested minor changes to the apex occupation list.) Apex career occupations also met the following three criteria established by SOICC:

1. The occupation is in the same industry/field as the entry position (e.g., healthcare)
2. The occupation pays more than the entry position and at least twice the minimum wage).

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[1] In four instances at the informant's preference, researchers conducted the interview by telephone.

3. The occupation requires some additional education/training beyond the entry-level certification requirements.

The entry and apex occupations are presented below.

OES Code	OES Title	Apex Occupation
32505	Licensed Practical Nurse	Registered Nurse
66017	Physical Therapy Assistant	Physical Therapist
32905	Medical Lab Technicians	Medical Lab Technologist
32508	Emergency Medical Technician	Paramedic
63017	Corrections Officer	Ranked Officer
66002	Dental Assistant	Dental Hygienist
85705	Data Processing Equipment	Electronics Technician Repairer
93914	Welder and Cutter	Pipe Fitter /Plumber
27308	Social Service Technician	Social Worker
85305	Auto Body Repairer	Auto Body Manager

Sample and Contact Strategy

Researchers conducted in-person interviews with five to ten individuals in each selected occupational grouping, depending upon the barriers encountered with identification and recruitment of voluntary participants and the time/resource constraints of the investigation. Investigators used convenience sampling to recruit participants, first soliciting prospective contact information from employers, education and training providers, and occupational, trade and professional associations, then pursuing appropriate contacts. (Attachment B provides further details of the sample and contact strategy.) Researchers also solicited referrals from voluntary participants. All potential participants were informed that their cooperation with the study was entirely voluntary and that all individual level data collected would remain confidential.

Limitations

This exploratory research has recognized limitations. The number of subjects per occupation is by design very small; their insights and experiences may not be common among all members of the respective occupations. In addition, organizational structures and career progressions may change over time. Moreover, the presently robust Austin economy has an exceptionally tight labor market and a very well-educated workforce due

in part to the presence of the University of Texas and the city of Austin's status as the state's capital. Firms can demand and expect higher professional standards among workers. Career progression experiences drawn from this market may not be indicative of experiences elsewhere in the state.

D. Organization of Text

Section II presents the results of the career Progressions investigation, starting with distributions of respondents and basic demographics. This section presents observations for each occupation based entirely on informant experiences and perceptions. Several topics are considered, including factors associated with personal success, entry points to the occupational field, work histories, education and training, and associated observations concerning benefits, tenure, and career advice. This section closes with observations drawn from experiences across all ten occupations. Section III concludes the report with comments and observations regarding career progressions, labor markets, and areas for further inquiry.

II. Career Progression Interview Results

A. Respondents

Researchers completed 66 interviews with individuals in the selected apex occupations. Only about one-third of these individuals progressed to the apex occupation through the observed entry-level occupation. Alternatively, more than one-half of the individuals entered directly at the apex occupation projected from the observed entry-level occupation. An observable career progression was more strongly associated with Paramedics and Corrections officers. The health care professionals were more likely to enter directly at the apex.

Table 1:
Occupational Entry

	Number of Interviews	Observed Entry	Apex Entry
Registered Nurse	9	3	6
Physical Therapist	5	0	5
Medical Lab Technologist	5	0	5
Paramedic	9	9	0
Corrections Officer	8	8	0
Dental Hygienist	5	0	5
Electronic Technician	5	1	2
Plumber/Pipefitter	6	1	5
Social Worker	8	1	5
Auto Body Manager	6	0	1
TOTAL	**66**	23	34

Respondent Characteristics

The average age of all respondents was 42 years, and individual ages ranged from 22 to 65 years. Electronic Technician was the youngest group and Plumber/Pipefitters, Corrections Officers and Social Workers tended to be older. Overall, females were slightly more represented than males; males comprised 45.5 percent of the participants and females 54.4 percent. Registered Nurse, Physical Therapist, Dental Hygienists, Auto Body Shop Managers, and Plumber/Pipefitters appear to remain gendered occupations. Most of the respondents were Anglos (74.2percent); Hispanics (15.2 percent) and Blacks (6.1 percent) had much smaller shares. The average number of years of education across all ten occupations is sixteen years. Plumber/Pipefitters tended to have the least formal education; Registered Nurses had the most.

Table 2:
Respondent Characteristics

	Age		Gender		Ethnicity					Education
	Range	**Avg**	**Male**	**Female**	**Anglo**	**Black**	**Hispanic**	**Asian**	**Other**	**Avg. Yrs.**
Registered Nurse	25 to 55	42	0.0%	100.0%	44.4%	33.3%	11.1%	0.0%	11.1%	20
Physical Therapist	28 to 50	37	0.0%	100.0%	80.0%	0.0%	0.0%	20.0%	0.0%	18
Medical Lab Technologist	27 to 60	43	20.0%	80.0%	80.0%	0.0%	0.0%	0.0%	20.0%	17
Paramedic	30 to 43	38	66.7%	33.3%	77.8%	0.0%	22.2%	0.0%	0.0%	15
Corrections Officer	40 to 49	44	62.5%	37.5%	62.5%	12.	25.0%	0.0%	0.0%	15
Dental Hygienist	33 to 50	38	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	17
Electronic Technician	22 to 42	31	80.0%	20.0%	60.0%	0.0%	40.0%	0.0%	0.0%	14
Plumber/Pipefitter	44 to 50	47	100.0%	0.0%	83.3%	0.0%	16.7%	0.0%	0.0%	13
Social Worker	34 to 65	50	25.0%	75.0%	75.0%	0.0%	25.0%	0.0%	0.0%	18
Auto Body Manager	27 to 58	41	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	15
TOTAL	**22 to 65**	**42**	**45.4%**	**54.5%**	**74.2%**	**6.1%**	**15.2%**	**1.5%**	**3.0%**	**16**

B. Occupational Results

Results of interview with individuals in selected apex occupations are discretely presented in the following section according to the same order as listed above.

1. Registered Nurses

Center staff interviewed nine Registered Nurses (RN). Leads were developed through instructors and administrators of the School of Nursing at the University of Texas-Austin. Most of those interviewed completed their educational requirements and went directly to apex positions; only three nurses entered the field as an Licensed Vocational Nurse (LVN). These latter continued their education while working.

Once at the apex, the specific career progression for these Registered Nurses (RN) has varied. There appears to be a more formalized career pathway for those nurses choosing to work in hospital settings and more variety for those who chose alternate nursing paths. The career progression for a RN in a hospital involved the following stages: 1) staff nurse, 2) charge nurse, 3) nurse manager, 4) department head, and finally 5) Director of Nursing. RNs who did not choose a hospital setting have held many positions. Many have worked at times in a hospital setting, but have also worked in different contexts (home healthcare, institutional nursing, teaching, etc.) while pursuing their career within the nursing field.

Commitment and caring for others are factors associated with success in the nursing field. Other personal characteristics include the ability to be a team player, the presence of a strong knowledge base from which to work, and strong communication skills for interacting not only with others in the medical profession, but also with the patients and their families.

The educational requirements for RNs appear to have changed over the years. In the past, many RNs graduated from Diploma schools or with Associate's degrees. Increasingly, RNs are required to have Bachelor's degrees in nursing (BSN) and in many cases Master's degrees for higher administrative roles or teaching. Continuing education is pervasive within the field and is required to maintain licensure.

The vast majority of RNs knew they wanted to be in this field from a very young age and set about making their career dreams into realities as evidenced by their longevity and success in the field. The field affords RNs a vast array of options ranging from working in hospitals or providing home healthcare to owning a private practice or teaching as a professor in an institute of higher education.

Occupational Experiences

Point of Entry

Most Registered Nurses became interested in the field due to a desire to help others. Some were personally touched by the impact of serious illness within their family while others were introduced to the field through personal contacts. Three of the nine RNs interviewed entered through hypothesized entry occupation of Licensed Vocational Nurse (LVN). The remaining six entered the field at the apex of RN.

Career Tenure/Time Frames

Respondents averaged sixteen years tenure in the apex occupation of Registered Nurse. Tenure ranged from 4 years to 35 years.

For those who entered the field as LVNs, the average number of years from entry to the first RN position was nine years, ranging from four years to thirteen years.

The average number of years from entry to the current RN position (suggesting the total amount of time in the nursing field for interview participants) was seventeen years, ranging from 5 years to 35 years.

Work Histories

Persistence in the Field. All of the interviewed nurses have remained continuously employed in the health care/nursing field subsequent to their entry position.

Mobility during Progression. None of the RNs who were interviewed held interim positions at other employers in the nursing field.

Mobility at Apex. The majority of participants tended to enter the field at the apex and have had several positions as an RN. Only two RNs have worked for a single employer only. Two have worked for two employers, two worked for three employers, and three worked for more than three employers. (Two of the nine are currently full-time students who are temporarily out of the work force while pursuing their Bachelor's degree in nursing.)

Education and Training

A degree from a Diploma school or an Associate's degree was the only education or training required for the entry-level job in nursing. Five of the nine nurses obtained an Associates Degree while the remaining for graduated from diploma schools. Of the five who had Associates Degrees, all but one obtained their Bachelors of Nursing (BSN). Of the four nurses who graduated from diploma schools, all obtained at least their BSN while one advanced to the Masters level.

All respondents have participated in continuous training provided by the employer or by professional services associations subsequent to entry. Most indicated that their employers offered access to, and encouraged participation in, occupational education and training. None indicated, however, that they were provided access to employer-provided education and training that was directly/causally linked to a promotion. Continuous training is required to stay abreast of medical and technological advances, new practices and — increasingly so — licensing requirements.

Other Results

Income. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $49,000. For the apex occupation the current wages ranged between $42,600 and $60,000. For entry-level occupations the wages ranged between $6,000 and $50,000.

Employee Benefits. Of the nurses currently employed, all but one were receiving an employee benefits package in their current jobs. The majority (five) did receive benefits in their entry position. Only two of the nurses in the sample, felt benefits were an important aspect of their livelihood.

Seniority. Seniority alone has minor impact along the career progression. Only two of the RNs were assigned a new job title/rank and responsibilities based solely on the number of years on the job. In the vast majority of other cases, it was a combination of both seniority and performance that dictated promotion.

Final Advice. A number of RNs stressed the importance of obtaining the BSN degree, noting that an Associates degree will allow one to work in the field, but that access to promotions and other opportunities (e.g., teaching, administration) would be limited. Apparently, RNs feel that constant demand ensures some level of employment security. Also, the RNs recommended that individuals interested in pursuing a career in the field work as a nurse's aid to get hands-on experience and on-the-job-training that is lacking in many of the BSN programs.

2. Physical Therapist

Center staff interviewed five Physical Therapists (PT). Leads were developed through an administrator of the Physical Therapy and Rehabilitation Services at a local hospital and personal referrals. All of those interviewed completed their educational requirements and went directly to apex positions.

The career progression for Physical Therapists appears rather stable. Individuals tend to enter the field at the apex, not as Physical Therapy Assistants, and work with a number of different employers during the course of their careers. Individuals may enter as a Physical Therapist and then move into a Senior Physical Therapist position which involves more managerial/administrative duties. In larger organizations (e.g., hospitals), individuals can become a Department Director, but in other settings this path is unavailable. There are large numbers of Physical Therapists in the field and recently the

market has become somewhat saturated. Hence, the frequency with which Physical Therapists change employers has decreased.

Physical Therapists require high levels of motivation and an overall desire to help others. Individuals in the field also need good communication and interpersonal skills since they interact with patients on a daily basis. These individuals also need to keep abreast of changes in their field as well as Health Maintenance Organization (HMO) rules.

Educational requirements reportedly have changed over the last few years. Previously, Physical Therapists needed a Bachelor's degree in order to secure employment but a Master's degree is increasingly required. The Master's degree usually consists of an additional year of training upon completion of the Bachelor's.

This occupation is normally approached as an apex position. Physical therapy affords one the opportunity for longevity in the field, although the physical demands are a consideration as one progresses. In those instances, transitioning to a more administrative role is desirable, while another option is working only part-time.

Occupational Experiences

Point of Entry

In most cases these individuals had been exposed to the medical field either through family members or direct personal experience and viewed Physical Therapy as a viable career option. None of the five PTs interviewed entered through the observed entry occupation of Physical Therapy Assistant.

Career Tenure/Time Frames

Respondents averaged fifteen years of tenure as Physical Therapist, ranging from 7 years to 26 years in the occupation. Since all entered the field at the apex occupation, there was no time lapsed during the progression from an entry-level occupation to an apex occupation.

Work Histories

Persistence in the Field. All of the Physical Therapist interviewed have remained continuously employed in the same field.

Mobility during Progression. Since all entered at the apex, none of the Physical Therapists who were interviewed held interim positions at other employers in the field.

Mobility at Apex. Individuals tend to enter the field at the apex and remain continuously employed in the field. Individuals did tend to work for multiple employers over time and a number of respondents occasionally worked on a part-time basis. No PT

had worked for a single employer only. One had worked for only two employers, while the remaining participants had worked for more than three employers. (One was currently unemployed.) The field is vast with respect to the specialty areas in which a Physical Therapist can function (e.g., sports medicine, geriatrics, pediatrics, etc.).

Education and Training

A Bachelor's degree is required for a position as a Physical Therapist. All participants had a Bachelor's degree from a University-based program prior to securing their first job in the field. One participant had a Master's degree in Healthcare Administration which was deemed necessary for the position as Department Director.

All have participated in continuous training provided by an employer or professional services associations. The majority of Physical Therapists indicated that their employers offered access to and encouraged participation in education and training. This education and training however, was not linked to a promotion. Continuous training is required to stay informed of changes in the field and more importantly to maintain licensure. (30 hours every two years is currently required to maintain licensure.)

Other Results

Income. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $50,000. At the apex occupation, the current wages among respondents ranged between $33,000 and $63,000. At their entry/apex occupations, wages had ranged between $8,400 and $22,000.

Employee Benefits. Half of the participants were receiving an employee benefits package in their current jobs. Only one Physical Therapist in the sample considered benefits to be an important aspect of her employment. Participants did note that the availability of employee benefits from their spouse's employer lessened their own concern about the benefits packages of their employer.

Seniority. Seniority alone has minor impact along the career progression. None of the Physical Therapists were assigned a new job title or responsibilities based solely on the number of years on the job. Rather, it is a combination of seniority and performance that affects an individual's profitability.

Final Advice. Respondents indicated that it is important to receive a solid educational background and to link this with hands-on experience in any of several prospective contexts (e.g., hospital, private clinic, nursing home, etc.). The field is receptive to non-traditional scheduling and may be of particular interest to individuals looking to work part-time or to have a flexible schedule and yet still make a comfortable living. It is cautioned that the physical demands may become excessive as one ages and that individuals should consider this prior to entry in the field.

3. Medical Lab Technologist

Center staff interviewed five Medical Laboratory Technologists. Leads were developed with the help of the coordinator of the Medical Laboratory Technology Program at ACC and the Austin District Society for Clinical Laboratory Science. All of those interviewed completed their educational requirements and went directly to apex positions; none of the respondents had held a position as a Medical Laboratory Technician.

Similar to the situation with Registered Nurses, the career progression for Medical Lab Technologist (MLT) is more structured in a laboratory environment, with alternative opportunities outside of the labs. In the more structured progression a qualified MLT begins at an entry-level position, advances to become Departmental Supervisor, Assistant Lab Director and finally the Lab Director. Alternative career paths for those in the field include technical representative for those who sell lab equipment and sales of laboratory equipment. Respondents suggest that those who do enter the field in a lab setting tend to remain continuously employed in that environment for long periods of time.

Good problem solving skills, a strong procedural orientation, and the ability to pay attention to detail are the more analytical tools needed to be a MLT. In addition, MLTs need to be able to multi-task and have good interpersonal/communication skills since they will be communicating not only with fellow MLTs but also with other medical professionals (e.g., doctors, nurses, etc.).

The educational requirements for MLTs appear to have remained constant over the years and three basic educational routes for those entering the field can be identified: a four-year, college level Medical Laboratory Technology program; a hospital-based program known as a three plus one program, or a Bachelor's degree in a biological science supplemented by a one-year training program in Medical Laboratory Technology which enables one to sit for the licensure exam.

Respondents were quick to highlight that this career may not be an optimal choice for individuals who need to be primary wage-earners in a family; the pay tends to be low relative to the amount of training and education required.

Occupational Experiences

Point of Entry

The majority of MLTs were interested in medicine and enjoyed working in laboratories. None of the five MLTs interviewed entered through the hypothesized entry occupation of Medical Lab Technician.

Career Tenure/Time Frames

Respondents averaged 24 years in the apex occupation of Medical Lab Technologist. Tenure ranged from 15 years to 37 years in the apex occupation. Since all entered the field at the apex occupation, there was no time lapsed during the progression from an entry-level occupation to an apex occupation.

Work Histories

Persistence in the Field. All of the interviewed MLTs have remained continuously employed in the same field subsequent to their entry. Most have worked for few employers.

Mobility during Progression. None of the MLTs who were interviewed held interim positions at other employers in the field, since all entered at the apex occupation

Mobility at Apex. Individuals tend to enter the field at the apex and remain attached to their employers. One of the five MLTs, a recent graduate, has worked for a single employer only. One of the five worked for two employers, one for three employers, and two for more than three employers. Two of these MLTs had been employed with their current employers for over 20 years.

Education and Training

Three of the five MLTs obtained Bachelor's degrees in a biological science and then completed the one-year training course necessary to participate in the licensure exam. The other two completed Bachelor's degrees in Medical Lab Technology.

All have participated in continuous training provided by the employer, manufacturers or professional services associations subsequent to entry. The majority of MLTs indicated that their employers offered access to occupational education and training that was not directly linked to advancement opportunities. Continual training is required to stay informed of the technical advances in laboratory equipment. Participants stated that the manufacturer offered training when new equipment was introduced into the lab for at least one member of the staff.

Other Results

Income. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $32,500. Current wages ranged between $23,000 and $40,000. For entry/apex occupations the wages had ranged between $10,000 and $22,000.

Employee Benefits. All participants were receiving an employee benefits package in their current jobs; some did not receive benefits in their entry position. Three of the

five participants felt benefits were important in their decision to choose or remain at a job.

Seniority. Three of the five MLTs believed seniority played a significant role in their promotions. As stated previously, MLTs tend to remain with a single employer for extended periods of time and promotions to Lab Director are certainly affected by seniority. The majority did note that performance also played a role in the promotion process.

Final Advice. The majority emphasized the low wages for this position and that this may be a serious consideration for those interested in entering the field. One participant had a difficult time even recommending that individuals enter the field. On a positive note, this field is a viable option for those who have a science background and enjoy the healthcare field. Individuals with such a background are very employable in a laboratory setting.

4. Paramedic

Center staff interviewed nine Paramedics, almost all of whom were employed in the City of Austin's Emergency Medical Services (EMS) system. Leads were developed through instructors and administrators of the Paramedic Technology Program at Austin Community Colleges and of the Austin EMS. All nine of the Paramedics in this study either entered or passed through the identified entry occupation, Emergency Medical Technician (EMT), during their career progression.

Although none of the respondents entered the apex occupation as a first job in the field, the career progression to become a Paramedic appears to be changing — at least in the Austin area — as higher professional standards are applied to the City of Austin's EMS. Older, more tenured Paramedics followed a stepped-path to the apex characterized by entry as an Emergency Care Attendant (ECA) or an Emergency Medical Technician (EMT) and eventual attainment of Paramedic training, certification, licensure and appointment to a Paramedic position. Recent entrants into the field now tend to acquire Paramedic certification first, seeking direct placement as a Paramedic. At the same time, entry-level jobs as ECA or EMT may become increasingly rare as employers professionalize their services and hire only Paramedics for EMS.[2]

Personal characteristics are deemed very important — perhaps crucial — to success as a Paramedic. Notably, successful individuals must have a capacity for high stress and be team players, as well as motivated, disciplined, and receptive to continuous learning and improvement.

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[2] The extent to which "professionalization" has occurred at other employers was not determined. These observations are constrained by their induction from respondents at a single employer, albeit well-informed sources at a leading employer in the Austin area.

Education is increasingly important. Whereas a high school diploma/GED was the only entry requirement fifteen to twenty years ago (and training was provided on the job and through employer-sponsored training modules), an Associate Degree or Paramedic Certificate is now commonly required for entry. Training is continuous reflecting the need to keep pace with constant improvements in technologies and emergency care practices, as well as to demonstrate proficiencies in areas of specialized emergency care. Experience is also essential to develop people skills and to handle emergency situations.

Few Paramedics traditionally approached this occupation as an apex. Frequently considered "a younger persons job," Paramedics often prepared for continuing careers in administration, nursing, or hospital-based-emergency care services. While these options have not faded, tenure among Paramedics, particularly in civil service positions, seems to be increasing. Civil Service tends to promote longevity in the field and the 24-hour on, 48 hour off work schedule permits continuing education or alternative career-building opportunities.

Occupational Experiences

Point of Entry

Most Paramedics became interested in EMS because of a desire to help others in catastrophic situations. For some respondents, this desire was nurtured by the television show, *Emergency*, but for others it was based on personal tragic events. The availability of jobs that did not require long-term training prior to entry supported these inclinations to some degree. A few were influenced by personal contacts in the field as well.

One of the nine Paramedics interviewed entered the field as an ECA; another's first job was as a Field Technician for an insurance company. The remainder all entered as EMTs. All held positions as EMTs prior to becoming Paramedics; a few held these positions although they had already completed their Associate Degree in Paramedic Technology.

Career Tenure/Time Frames

Respondents averaged 13.6 years in the apex occupation (Paramedic). Tenure ranged from 5 years to 22 years in the apex occupation.

For all Paramedics in the sample, the average number of years from the entry-level job in the field to the first Paramedic (apex) position was 2.6 years, ranging from one year to seven years.

The average number of years from entry to field to the current Paramedic position (suggesting the total amount of time in the EMS field for interview participants) was 16.1 years, ranging from 7 years to 24 years.

Work Histories

Persistence in the Field. All of the interviewed Paramedics have remained continuously employed in the same *field subsequent to their entry position in Emergency* Medical Services.

Paramedics rarely seriously considered alternative career options as they advanced; a few however, have invested in parallel and future career prospects. For example, one respondent has pursued a career in law enforcement while working as a Paramedic, another has returned to school to acquire a nursing degree.

Mobility during Progression. Most of the Paramedics who were interviewed held entry or interim positions at one or two other employers in the EMS field prior to becoming a Paramedic. Only one individual worked for three other employers while advancing to the apex occupation.

Mobility at Apex. Paramedics in the interview sample did not tend to change employers at the apex occupation in their careers. Most have worked as Paramedics for only one employer. Only two respondents held jobs as Paramedics with other employers; both had two previous positions prior to their current employer.

Education and Training

Although a high school education/GED was the minimum education requirement for most Paramedics, the average number of years of education among respondents was fifteen years. Most had some college level education, but only one respondent had completed undergraduate and graduate degree programs. Four had Associate Degrees in Paramedic Technology. None of this formal education was funded by their employers.

All had completed Paramedic and EMT training, mostly conducted at community colleges. Only one individual had received support from his employer to attain the Paramedic Certificate; a couple of respondents had received employer support to acquire their EMT Certificate. Most acquired these certifications at their own expense. A couple of the more-tenured, early entrants to the field received work-based training and competency tests to advance along the career progression.

All have participated in continuous training and specialty certifications sponsored by the employer and provided by the employer or professional services associations. Continuous training is required to remain viable in practice, as well as to maintain licensure.

Other Results

Income. Paramedic experienced large nominal increases in pay as they advanced from their entry to apex positions. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $43,429. At the apex

occupation, current wages ranged between $36,000 and $55,000. For non-apex, entry-level occupations, wages averaged $11,528 and ranged between $6,120 and $18,000.

Employee Benefits. All of the Paramedics were receiving employee benefits packages in their current jobs. About half of the respondents did not receive benefits in their entry position, primarily those whose first job was with a non-emergency medical transport business. For most (six) of the Paramedics in the sample, benefits are currently an important aspect of their livelihood, particularly as they have aged (retirement benefits) and family responsibilities have grown (health care benefits). For some (three) Paramedics, benefits were of little importance for career selection and retention.

Seniority. Seniority alone has a minor impact along the career progression. None of the Paramedics was assigned a new job title/rank and responsibilities based solely on the number of years on the job. Seniority, as a manifestation of experience and dedication, is a prominent consideration associated with merit-based promotion in the EMS field.

Final Advice. The ability to act effectively in a critical situation is an essential component of success. Paramedics must manage events ranging from nuisance to life threatening with equal levels of professional demeanor at all times in a variety of social contexts. Individuals who are attracted to such work must be able to deal with associated stress personally, as well as with their families, co-workers, and members of the public that they serve. Prospective Paramedics should obtain the prerequisite certification and be prepared for a career that requires continuous learning.

5. Ranked Corrections Officer

All eight of the ranked Corrections Officers began working in the field at the identified entry occupation, rising through the ranks over time. Contacts were solicited from the Texas Institute for Public Problem Solving (TIPPS) at the University of Texas-Austin, the Criminal Justice Program at Austin Community College and the Travis County Sheriff's Department. All eight of the respondents worked for Travis County.

The career progression in the field of Corrections among the Austin area professionals who participated in this research is to enter as a Corrections Officer, the "first-line" worker, and proceed through the various ranks from Sergeant/Supervisor through Captain, Major, Deputy Chief or Warden. In Corrections (and Law Enforcement), certain individuals prefer to remain active in first-line duties, while others prefer to advance through administrative ranks. In consideration of this, the interview sample is split between individuals who generally perceive Sergeant as their personal apex and those who chose the more administrative career option. The more high profile, appointed positions of Deputy Chief or Warden were not included in the sample. All in the sample are senior career officers in public sector employment; no private corrections entities were approached in this study.

A high school education or its equivalent is the minimum requirement for entry into the field; higher education is an asset, but has not historically been required for

advancement. Advancement in the public sector is broadly based on a combination of qualifying test scores, work history, education and certifications, peer assessments and interviews. Individuals normally enter as Corrections Officer I and advance through the ranks. (Highest level ranks serve at the will of the Sheriff.) Training is continuous and required for viability and licensure in line with standards of the Texas Commission on Law Enforcement Officer Standards and Education (TCLEOSE); it is provided formally and informally on the job as well as through specific training modules. Personal characteristics are also very important. Notably, successful individuals must have integrity/honesty, good oral and written communication skills, a capacity for high stress and be motivated, disciplined, and committed to the field. Experience is also essential to develop skills and to handle tense situations. Hard work and commitment are crucial in this field, which is easy to enter and (at least in the public sector) offers many career options, good income prospects, relative job security and full benefits

Occupational Experiences

Point of Entry

Most Corrections Officers entered the field because of interest stimulated by a college class in Criminal Justice and/or the availability of job openings. All of the individuals interviewed entered as Corrections Officer I and worked their way up the ranks.

Career Tenure/Time Frames

Respondents averaged 11.9 years in their apex occupation[3]. Tenure at the apex ranged from 9 years to 21 years.

The average number of years from entry to the first ranked position was 6.9 years, ranging from 2.5 years to 14 years.

The average number of years from entry to the current ranked position was19 years, with tenure in the occupational field ranging from 13 years to 25 years.

Work Histories

Persistence in the Field. All of the interviewed Corrections Officers have remained continuously employed in the field subsequent to their entry position. Most have at some time considered Law Enforcement as an alternative career options; several are also licensed Peace Officers. All plan to retire as Corrections Officers.

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[3] For purposes of this analysis, Sergeant is considered the apex occupation although four have advanced to Captain and Major.

Mobility during Progression. Half of the individuals who were interviewed began their careers with the Sheriff's Department; half held entry and interim positions with other employers in the field prior to becoming a Travis County Corrections Officer.

Mobility at Apex. None of the Corrections Officers in the interview sample changed employers after advancing in rank to their apex with their present employer.

Education and Training

All of the respondents exceeded the minimum education requirements in their field. A high school education/GED was the only education or training required for the entry-level Corrections Officer position. Four respondents had a Bachelor's Degree. Three of these were in Criminal Justice; one had a Master's Degree in the field. The remaining four had some college education.

All have participated in continuous formal and informal training provided by the employer or through professional services associations subsequent to entry. Continuous training is required to learn new practices in the field, ancillary skills and to meet licensing requirements. TCLEOSE currently requires 160 hours of ongoing training every four years.

None of the respondents indicated that they were provided access to employer-provided education and training that was directly/causally linked to a promotion. Education, certifications and experience are factors in promotion.

Other Results

Income. All of the respondents have gained nominal pay increases during their tenure in the occupational field, and all appear content with their current wage levels. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $59,000. At the apex occupation, the current wages ranged between $46,500 and $75,000. For entry-level positions as Corrections Officer, the wages averaged $11,700 and ranged between $4,800 and $23,500.

Employee Benefits. All of the participants were receiving an employee benefits package in their current jobs. Only two individuals did not receive benefits in their entry position. Most stated that benefits are currently an important aspect of their livelihood, particularly as they have aged (retirement benefits) and family responsibilities have grown (health care benefits). A few were not concerned about benefits as factor of job selection and retention.

Seniority. Seniority alone has had minor impact along the career progression for these Corrections Officers. None were assigned a new job title/rank and responsibilities based solely on their number of years on the job. Within the formal civil service/merit-based policy for advancement, officers indicated that hard work, dedication, and accomplishment were important considerations.

Final Advice. Most of the Corrections Officers attribute success to hard work, attention to detail, good communication skills and working well with others. Peer learning and support are important practical features of the Corrections field. Though this field can at times be very exasperating and tense, it nonetheless offers good career and income prospects for those who have the capacity and the willingness to pursue it.

6. Dental Hygienist

Center staff interviewed five Dental Hygienists. CSHR researchers contacted the coordinator of the University of Texas Health Science Center in San Antonio, the Austin Dental Hygienist Association and individuals working in the field to recruit participants. All of those interviewed completed their educational requirements and went directly to apex positions; none of the respondents had held a position as a Dental Assistant.

A career progression for Dental Hygienist is lacking. There is no "hierarchy" within the field for those employed in private practice at a dentist's office; the Dental Hygienists performs a fixed set of services. There are options outside of private dental practice, (e.g., teaching, sales, research). In cases where a Dental Hygienist pursues a teaching option, levels are defined by the university structure rather than the field of dentistry. Three respondents worked in private practice and two followed non-traditional paths.

The occupation is lucrative for those pursuing full-time careers in private practice, but the nature of the work can become repetitive. Those pursuing non-traditional career options do not seem to experience the mundane aspects of the job to the same extent. In fact, the non-traditional approach was sought out due to the constraints present in private practice.

Important factors for success as a Dental Hygienist include motivation, compassion and the ability to be a team player. Good interpersonal communication skills are necessary, especially since the majority of a hygienist's time is spent with patients. The minimum educational requirement is the completion of a Certificate program or an Associate's degree, both two-year endeavors. However, possession of only the Certificate or Associate's degree limits a Dental Hygienist's career options. In order to teach at a university, the minimum requirement is a Master's degree, while in other instances (e.g., working in a Pharmaceutical company) a Bachelor's degree is the minimum requirement.

This occupation appears to be approached as an apex occupation. The field affords individuals the flexibility to work part-time and yet make a comfortable living. Due to the flexibility, many tend to work with a number of employers over the course of their careers. The routine nature of the position (especially in private practice) may be an unattractive choice for individuals seeking a creative outlet.

Occupational Experiences

Point of Entry

Most of the respondents had been introduced to the field of dental hygiene through family members who were dentists or through friends who were enrolled in dental hygiene educational programs. No one interviewed entered through the hypothesized entry occupation of Dental Assistant.

Career Tenure/Time Frames

Respondents averaged fourteen years in the apex occupation of Dental Hygienist; tenure ranged from thirteen years to sixteen years.

Work Histories

Persistence in the Field. All of the participants have remained continuously employed in the same field since entry.

Mobility during Progression. None of the Dental Hygienists who were interviewed held interim positions between entry and apex with other employers in the field, since all began working as Dental Hygienists.

Mobility at Apex. Individuals tend to enter the field at the apex and remain continuously employed in the field. Respondents worked for multiple employers in the field, occasionally on a part-time basis. None of the Dental Hygienist had worked for a single employer during their careers; all had worked for more than three employers.

Education and Training

A Certificate or Associate's degree is required for entry-level positions as a Dental Hygienist. Of those interviewed, two had only an Associate's degree or Certificate, one a Bachelor's degree, and two had subsequently received Master's degrees during the course of their careers.

All have participated in continuous training provided by an employer or professional services associations. This was not linked to a promotion. Continuing education is required to remain abreast of changes in the field; it is also a requirement to maintain licensure (twelve hours per year).

Other Results

Income. The average current annual gross wages, based on self-reported data in the apex occupation was approximately $61,000[4]. At the apex, current wages ranged between $56,500 and $68,000. At entry, wages of respondents had ranged between $17,000 and $34,000.

Employee Benefits. All of the participants were receiving employee benefits in their current job. For all of the Dental Hygienists in the sample, benefits are an important consideration. Some did receive benefits in their entry position.

Seniority. Seniority is not a promotion factor in private practice; there is no higher position into which one can be promoted. For those in academic settings, promotions are based both on length of employment and performance.

Final Advice. An individual interested in flexibility can make a two-year investment in an academic program and make a comfortable living as a Dental hygienist. Respondents recommended that individuals complete a four-year program if they are interested in more career options, since the Certificate and Associate's degree only gain one entrance into the realm of private practice.

7. Electronic Technician

Center staff interviewed five Electronic Technicians who were recruited with the help of the placement coordinator at ITT Technical institute and the Electronics Technology Coordinator at Austin Community College. Two of those interviewed completed their educational requirements and went directly to apex positions; one had held a position as Data Processor Repairman. The remainder held different positions in the field before becoming Electronic Technicians.

Electronic Technician opportunities are abundant in Austin due to the concentration of semiconductor, computer, and technology companies in the area. Technicians are usually hired after obtaining a two year Associate's Degree from a technical school or community college. For the larger firms, this degree is a prerequisite for an entry-level position as a technician. Firms also provide extensive and continuous on-the-job training to teach employees how to work with their specialized equipment. Experience is crucial to advancement; a technician who demonstrates aptitude and skills is promoted to positions with higher salary levels and more responsibilities.

The electronic technicians interviewed stressed the importance of obtaining basic training in electronics, augmented with a background in computer technology and

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[4] The wages were computed for full-time equivalents for those working part-time

mechanics. Diversifying one's technical understanding of different areas is valuable. Employers are also looking for reliable, educated workers with demonstrated ability to work well with others. Problem solving skills, motivation, and mechanical aptitude are additional characteristics associated with success.

Occupational Experiences

Point of Entry

Respondents were drawn to the field by employment opportunities and personal aptitude. Two completed educational requirements before working in the field and entered at the apex occupation.

Career Tenure/Time Frames

Respondents averaged 4.7 years in the apex occupation of Electronic Technician; tenure ranged from 1.5 years to 8 years.

The average number of years from entry to the apex was 2.5 years, ranging from two years to four years, excluding those who entered at apex.

The average number of years from entry into the field to the current position was 6.7 years. Career tenure ranged from four years to eight years.

Work Histories

Persistence in the Field. The respondents have been continuously employed in the field subsequent to their entry position.

Mobility during Progression. Only one of the participants interviewed held an interim position with other employers in the field prior to becoming an Electronic Technician. This individual worked for two different interim employers.

Mobility at Apex. Mobility at the apex occupation varied among respondents. The majority (three) have worked for a single employer only, while the remaining (two) participants have worked for at least three other employers. Respondents indicated advancement opportunities with their current employers.

Education and Training

Although a formal education is not required, jobs are difficult to obtain without a high school degree and an associate certificate from a two-year program in a technical institute or a community college. All of the Electronic Technicians had completed certificate programs.

Advancement is based on aptitude and skills acquired on-the-job. Employees seeking additional education, such as that required to become an engineer, are commonly responsible for paying for this themselves. Continuous training that is relevant to job performance is provided by employers.

Other Results

Income. The average current annual gross wages in the apex occupation was approximately $48,000. Wages ranged between $25,000 and $67,000. Entry-level wages ranged between $14,000 and $16,000.

Employee Benefits. Respondents reported that report that employee benefits were important to job selection and retention. Only one respondent did not receive benefits at the entry-level job and all were currently receiving them. However, benefits are not standard in entry positions which are part-time and pay hourly wages.

Seniority. Electronic Technicians indicated that seniority is not important to career advancement. Promotion to a new job title and responsibilities is not based solely on the number of years on the job. The combination of experience, skills, and years with the company are factors in promotions offered to Electronic Technicians.

Final Advice. The field of Electronic Technicians can be negotiated successfully by individuals with the appropriate aptitude and willingness to learn. Many respondents identified obtaining the Associate's Degree as a major milestone in their careers. Nevertheless, respondents recommended keeping educational opportunities open and developing facility with software, mechanics, and electrical systems. One problem noted is the failure of community colleges and universities to accept the transfer of credits granted by technical schools. As learning centers, community colleges have an advantage over technical schools in this sense, but technical schools may be more established in particular markets.

8. Pipefitter/ Plumber

Center staff interviewed six Pipefitter/Plumbers. Leads were developed with the help of the Texas building and Construction Trades Council and Plumbers and Pipefitters Local Union 286. Only one individual began their progression to the apex occupation as a Welder. None of the respondents entered the field at the apex; advancement to the apex requires education, training and on-the-job experience over a three or four year period to master the trade.

The progression to the apex occupation in this field has not changed much in years. Pipefitters and Plumbers gain skills through a combination of continuous formal and informal training and education. Most usually start as helpers or apprentices working under the watchful eye of one or several journeyman or master plumbers until they acquire the level of technical skills and knowledge necessary for state licensing and/or recognition as a journeyman by the union or the industry. Several of the individuals who were interviewed in this study received skills training in the field from family members

working the field of plumbing or an affiliated building construction trade. Many received training through the union apprenticeship program. Most advanced rapidly to journeyman status as young men, and have spent years since building upon these acquired skills, incorporating new practices and technologies, and sharing these with others on the job or in training modules. Access to formal education or training at community colleges or technical institutes appears to be limited; most learning is on the job or acquired in short-term training courses. Obviously, experience is critical to mastering the trade.

At the apex, however, opportunities for continuous career advancement have expanded as Pipefitters/Plumbers apply and adapt skills to new technologies and productive practices, such as the use of computer-assisted design systems in the building trades and space-age metallurgy. Although participants noted that a high school education or its equivalent is generally considered a minimum requirement for entry into the field, they almost universally recommended technical and higher education as career-building assets. Personal characteristics are also very important. Notably, successful individuals must have common sense, the ability to work with others in a variety of contexts, good oral and written communication skills, and be motivated, hardworking, and committed to the field.

Occupational Experiences

Point of Entry

Many Pipefitters/Plumbers entered the field because of family backgrounds in the building trades and/or opportunities for casual labor while they were in school or looking for full-time work. Once trained and licensed, the income stream kept them attached to the field.

Career Tenure/Time Frames

Respondents averaged 21.2 years in their apex occupation. Tenure ranged from 12 years to 25 years.

The average number of years from entry to the first apex position was 8.3 years, ranging from 3 years to 23 years.

The average number of years from entry to the current ranked position was 29 years, ranging from 25 years to 36 years.

Work Histories

Persistence in the Field. All but two of the interviewed Pipefitters/ Plumbers have remained continuously employed in the field subsequent to their entry position. None of these have worked for a single employer only. Almost all have worked for more than three employers.

One individual who left the field to teach acquired the formal education needed for licensure while teaching at Texas A&M Extension Services. He subsequently returned to work in the field at the apex occupation.

Mobility during Progression. Only one of the individuals worked continuously from entry to apex with a single employer (a family business). Most held entry and interim positions with several employers. Of this latter subset, all worked for more than three employers while advancing to the apex occupation.

Mobility at Apex. Only one Pipefitter/Plumber has worked for only two employers since reaching the apex occupation. The remainder have all worked for more than three employers at the apex.

Education and Training

Only two of the Pipefitters/ Plumbers interviewed exceeded the minimum education requirement; one individual had some college and the other had a college Bachelor's and Master's degrees in education.

All have participated in continuous formal training provided by the union, as well as continuous informal training on-the-job. A few have earned certification and licensure in affiliated skilled building trades. Only two respondents indicated that their employer offered access to and encouraged participation in occupational education and training and one was directly/causally linked to a promotion.

Other Results

Income. All of the respondents have gained substantial pay increases during their tenure in the occupational field. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $49,500 and ranged between $40,000 and $70,000. For entry-level positions, the average wage was $6,500 wages ranged between $3,000 and $12,000.

Employee Benefits. All of the participants were receiving an employee benefits package in their current jobs. Most did not receive benefits in their entry position, which were largely casual employment situations. All stated that benefits are currently an important aspect of their livelihood.

Seniority. Seniority alone has had no impact along the career progression for these Pipefitters/Plumbers. None were assigned a new job title/rank and responsibilities based solely on their number of years on the job. Most indicated that hard work, dedication and skills levels were important considerations in their success.

Final Advice. Pipefitters/Plumbers attribute success to hard work, attention to detail, good communication skills and working well with others. Peer learning and support are important practical features of the building trades. The Pipefitter/Plumber

occupation offers good career and income prospects for those who have the capacity to work hard, learn from their mistakes and constantly improve their skills.

9. Social Worker

Center staff interviewed eight Social Workers. Leads were developed with the help of instructors at Austin Community College and the University of Texas at Austin. The eight Social Workers in the study followed a common career pathway involving the completion of a Master of Science in Social Work (MSSW) degree prior to or shortly after entering the occupational field. Five respondents completed the degree first; the remaining did so after their first job in the field. One entered the occupational field through the identified entry occupation (Social Service Technician).

Most started their careers providing direct services to clients in a variety of settings. Many remain in direct service, while others have become supervisors, managers, and administrators. Sometimes these responsibilities pull them away from the humane interests and direct action that originally attracted them to the field, but they continue to build upon the foundations of their Social Work experience and knowledge. It is not uncommon for many social workers with MSSW degrees to have little direct contact with clients. They may be more involved in planning, policy development, or administration.

Social Workers identified a combination of factors as critical to success. These included personal characteristics and interpersonal skills: motivation, resourcefulness, flexibility, capacity for stress, and enjoying working with diverse cultures and communities were highlighted. The experience of front-line, direct service work with clients was deemed to be irreplaceable to long-term success in the occupation. Social workers also respect the process of supervision, mentoring, and training as means to remain up to date with current practices in the profession. Training is offered by employers and by the professional associations, and generally training is deemed to be a central component of maintaining viability in the field.

Although a Bachelor degree will assure entry into the field nowadays, all of the respondents identified the MSSW as a requirement for success because it afforded greater flexibility and mobility in this field. Even at this stage in their careers with their considerable tenure in the field, the respondents indicated opportunities for continuous advancement in private practice and administration. There is widespread opportunity at the apex occupational level.

Occupational Experiences

Point of Entry

Most respondents were drawn to Social Work because of their interests in human services and making a difference in the lives of those in need. For some, social work is a "higher calling" developed from volunteer experiences or religious work.

Career Tenure/Time Frames

Respondents averaged nineteen years in the apex occupation of Social Worker; tenure ranged from 10 years to 31 years.

The average number of years from entry to apex for all respondents was 1.5 years. Excluding those who entered at the apex, the average number of years from entry to apex was four years.

The average number of years from entry to the current Social Worker position (i.e., the total amount of time in the Social Work field for respondents) was 24 years, ranging from 10 years to 47 years.

Work Histories

Persistence in the Field. All of the participants have remained continuously employed in the Social Work field subsequent to their entry position. None of the Social Workers left the field to pursue an alternative career path.

Mobility during Progression. None of the Social Workers who were interviewed held interim positions at other employers in the field of social work between their entry and apex positions. The second job held by the three respondents, who did not enter at the apex occupation, was the apex occupation.

Mobility at Apex. Social Workers in the interview sample tended to change employers at the apex occupation in their career. Only one respondent worked as a Social Worker for a single employer. The remaining respondents had worked for at least three other employers in addition to their current employer; three respondents had four other jobs. Job changes were associated with career progressions at the apex occupation.

Education and Training

Two respondents had only a high school education when they took their first job in the Social Work field; the remainder had either a college or graduate degree at entry. Employers provided on the job training in the entry positions.

Respondents indicated that the minimum educational requirement for entry into the field as a Social Worker is a Bachelor's degree. However, to ensure mobility, completion of the Master's degree is recommended. Four of the respondents received support from their employers to attain their MSSW.

All respondents have participated in continuous training provided by the employer or professional services associations subsequent to entry. Continuous training is required to remain viable in practice, as well as to maintain licensure.

Other Results

Income. Respondents indicated that upon entering the apex occupation with an MSSW, Social Workers can earn approximately $40,000 annually. They will earn more as a supervisor and substantially more as an administrator. Among respondents wages for their first job in the field averaged about $14,600 and ranged between $4,000 and $22,000 annually. Current wages averaged about $58,200 and ranged between $35,000 and $120,000.

Employee Benefits. Respondents indicated that they received employment benefits at their entry jobs, as well as at their apex jobs. Employment benefits were an important factor in job selection and retention decisions for all of the Social Workers.

Seniority. Seniority did not play a causal role in advancement for the responding Social Workers. Accrued experience is critical factor in career advancement.

Final Advice. In accord with their recognition of a graduate degree as a critical factor of success, Social Workers considered the attainment of their MSSW as a major career milestone. Other events on the path to success included becoming a supervisor or administrator and realizing personal and professional growth opportunities. Many cited specific projects and programs that they helped make successful. The profession's emphasis on mentoring also contributed to success.

Social Workers offered a broad range of career advice. Learn to get along with people and develop good interpersonal and communication skills. Value initial and continuous education and training. Get direct services experience in the "frontline." Learn to work with a range of cultures and minority groups. Finally, many Social Workers stressed the value in maintaining the flexibility to adjust to changing and uncertain conditions in their workplace and in the field.

10. Auto Body Shop Manager

CSHR researchers interviewed six Auto Body Shop Managers for this study. Participants were recruited with the help of the Automobile Services Association and the Austin Automobile Dealers Association. One individual entered the field at the apex and none entered the field through a job as an Auto Body Repairer.

Interviews suggest variability in the progression to Auto Body Shop Manager despite common experiences and characteristics associated with success in the Auto Body Work component of the Automobile Services sector. Most of the managers had long-term associations with Automotive Services that began in their youth. Their career paths included positions in mechanical services, parts, wrecker services, and sales, as well as positions dealing with auto body and paint services. Many managers have or did have more than one job in the automotive field at the same time in their career. Some, for example, supplemented their primary occupation with employment as wreckers or as part of racing teams. Most developed skills on the job, often under the tutelage of a mentor or as part of an informal apprenticeship, and supplemented these on the job learning experiences with training modules and specialty certifications sponsored by their employers and provided by industry associations, manufacturers and insurance companies.

Continuous training is a critical component of success, along with personal characteristics such as motivation, persistence in the field, stamina, willingness to learn, and the ability to envision a job from start to finish. Formal education is not an entry requirement, but those most successful recommend getting as much education as possible, particularly for dealing with the business side of Automobile Services. While much training is affiliated with the job and the workplace, most managers recommend getting the best training available, particularly through Texas State Technical Institute (TSTI), the Industry Council of Automotive Repair (ICAR) or Automotive Services Professionals (ASP). Automobile construction and technologies are rapidly advancing and a skilled craftsman must be educated and trained in these changing areas for estimating and completing repairs. Experience is also essential to gain proficiency in the myriad repair techniques necessary to untangle specific wrecks.

The Auto Body Repair industry itself is in a transitional phase. The market is segmented into independent shops, dealer franchises, and consolidated shops. Although the exact effects that current changes will have on wages is uncertain, a demand for skilled craftsmen is expected to continue unabated.

Occupational Experiences

Point of Entry

Most managers became interested in auto body work as part of their broader interest in automobile services. Many were raised working with cars or had parents who were affiliated with the auto industry. Only one manager entered at the apex career and learned the production side of the business on the job. One other entered as a Service Manager. The remainder entered as frontline workers; two in auto paint prep and one in parts. None entered strictly as an Auto Body Repair worker.

Career Tenure/Time Frames

Respondents averaged 12.2 years in the apex occupation. Tenure ranged from 6 years to 30 years in the apex occupation for participants.

Excluding those who entered the field as a manager, the average number of years from entry to the first manager position was 8.2 years, ranging from one year to fifteen years.

The average number of years from entry to the current manager position (suggesting the total amount of time in the field for interview participants) was 21.6 years, ranging from 8 years to 40 years.

Work Histories

Persistence in the Field. All except one of the interviewed Auto Body Shop Managers have remained continuously working with different employers in the same field subsequent to their entry position in Automobile Services.

Few managers have seriously considered alternative career options as they advanced; most have spent time as employees or managers in various components of the automobile business, for example in part, sales or maintenance services.

Mobility during Progression. All but one of the managers who were interviewed held entry or interim positions at multiple employers in the field prior to becoming an Auto Body Shop Manager. (That one entered at the apex, then performed bookkeeping and estimated repair costs for other companies before finishing college and opening his own shop.)

Mobility at Apex. Auto Body Shop Managers in the interview sample tend to change employers frequently at the apex of their career. All have worked as Auto Body Shop Manager for at least two employers, one has worked for worked for three employers and two have worked for three or more employers.

Education and Training

Although there is no minimum educational requirement in the Automobile Services industry, all of the interview respondents placed a high value on academic and technical/vocational education and training. Most at some point mentioned the benefits of a Texas State Technical Institute education and/or the Industry Council of Automotive Repair training as necessary ingredients to success. The academic background of the respondents themselves was mixed, ranging from a few individuals with high school educations only, through those with some college or a college degree, to one individual with multiple degrees and a PhD in Environmental Sciences.

Moreover, disregarding the one individual with multiple degrees in Automotive Technology, none of the respondents formally attended a technical training institute. All have participated in continuous training provided by the employer on-site or through professional services associations, manufacturers or insurance companies. Continuous training is required to remain knowledgeable of latest practices and technologies in the Automobile Services sector. None of the respondents indicated, however, that they were provided access to employer-provided education and training that was directly/causally linked to a promotion. On-the-job training under the guidance of a senior automobile technologist is also part of a recommended path to skills acquisition.

Most have no plans to leave the field and pursue an alternative career path; most are fully engaged in their present positions and desire to someday operate their own business or multiple facilities. No special education or training is generally identified in pursuit of these objectives, though most do express a desire to increase their personal knowledge of computers and software.

Other Results

Income. Auto Body Shop Managers experienced substantial increases in pay as they advanced from their entry to apex positions. The average current annual gross wages (based on self-reported data) in the apex occupation was approximately $61,700 and ranged between $36,000 and $90,000. For non-apex, entry-level occupations, the wages averaged $15,9201 and ranged between $7,500 and $27,500.

Employee Benefits. All of the participants were receiving an employee benefit packages in their current jobs. A few did not receive benefits in their entry position, primarily those whose first job was a more casual labor position in their youth. For all but one of the Auto Body Shop Managers in the sample, benefits are currently an important aspect of their livelihood.

Seniority. Seniority alone has had no impact along the career progression. None of the Auto Body Shop Managers was assigned a new job title/rank and responsibilities based solely on the number of years on the job. Experience, hard work, and continuous learning are associated with success and career advancement.

Final Advice. Only a couple of Auto Body Shop Managers recalled a particular event (a chance job opportunity) or a person (mentor) that helped them to become successful. Most mentioned education, persistence and hard work as ingredients for success. Auto Body Shop Managers recognized that auto body work may not suit everyone; it has to be something one enjoys and is willing to take the time to learn and master. A potential entrant with interest and motivation has plenty of opportunity for work with portable skills and good pay. Respondents recommended getting the best education and technical training available prior to entering a mentoring/apprenticeship program with a skilled craftsman.

III. Observations

A. Cross-Occupation Observations

The small number of interviews conducted for this research convey mixed messages regarding the concept of a distinctive career progression from an entry to an apex occupation.

Point of Entry

Most respondents did not enter their field through a clearly identified, lower-rung occupation on a career ladder. One-half of the respondents entered their occupational field in an apex position. Additionally, the concept of an apex occupation is not supported empirically in this small sample. Most respondents readily identified options and opportunities for continuous advancement in their occupational field; many of them had already advanced well beyond the tasks, responsibilities, knowledge and skill levels required to secure their first apex position.

Less than 40 percent of the respondents held the observed entry-level job, and two-thirds of these were Paramedics or Corrections Officers, the two occupations most closely conforming to the projected pathway. Respondents from these fields, drawn from civil service employers, do not represent the full range of private sector employment opportunities in these occupations. Moreover, as the Austin EMS system seeks to become more professional, the new entrants are being hired as Paramedics, indicating that the career progression from EMT to Paramedic will no longer exist with that public sector employer.

Respondents from Auto Body Shop Manager and Plumber/Pipefitter occupations described a career pathway based on an entry-level position as an apprentice or trainee working under the mentorship of an experienced, skilled craftsman over a three to four year period. However, none of the Auto Body Shop managers had strictly followed that path himself. The observed entry-level occupation for Plumber/Pipefitter was Welder/Cutter, an occupation that only partially captures the skills developed in the pathway recommended by the successful practitioners.

Dental Hygienists indicated that their industry is attempting to restructure by giving more responsibilities to Dental Assistants and employing fewer Hygienists, in part as a cost-saving measure. This implies labor segmentation rather than career progressions. None of the Dental Hygienists started as Dental Assistants.

Success Factors

Despite ambiguity concerning career progressions, common factors associated with success were observed across occupations. Respondents have a strong commitment to their work and have nurtured their interest in them over many years. Most respondents appear to be forward thinking individuals who weigh today's decisions in terms of future prospects. Successful individuals tended to exceed the minimum educational requirements of their field and to participate actively in continuous learning opportunities. Most are receiving wages that provide a secure livelihood or at least wages that support their household strategies in two-income families.

Work Histories

Almost all of the respondents have remained continuously employed in their occupational field subsequent to their entry position, be it apex or otherwise. Most successful individuals do not readily consider career changes, but do constantly seek challenges and advancement within their field. Most occupations offer work opportunities in various contexts, specialty areas, management/administration or associated jobs in the same industry. To some extent, opportunities flourish at the apex, not at the entry-level job.

Job mobility at the apex varies and is conditioned by labor market and organizational structures. Employer continuity was higher in civil service positions, and job mobility greater in health care occupations, largely as expected. Physical Therapists and Dental Hygienists suggest that excessive supply of workers and worker segmentation (e.g., Dental Assistants) could affect future mobility within some occupations.

Education and Training

Most respondents emphasized the important role of formal education and training to broaden career advancement opportunities. Moreover, the educational requirements for employment appear to be changing, as higher degree expectations are the norm for entrance, as well as viability, in the majority of the occupations in this sample. Almost all of the respondents with degrees from institutes of higher education paid for these programs themselves prior to or after entrance into a particular occupational field.

Continuous education and training at the work place is also associated with success and most respondents indicated that their employer offered access to or encouraged participation in such events. Peers, manufacturers and area specialists commonly provided instruction in specific training modules sponsored by the employer. Few respondents indicated that such training was directly/causally linked to a promotion; more often it is offered to maintain competencies, learn new technologies, and generally foster professional/industrial standards at the work place. In several occupations, continuous education is a requirement for licensure.

Other Results

Income. Successful individuals, in the occupations studied, are mostly content with their wages and income. In several occupations, respondents were remarkably satisfied with their wages, indicating that equivalent income would be beyond their reach given the lower levels of education required for entry into the field; to some extent this fostered persistence in the occupation. A few respondents noted that pay was not acceptable in their field, but that individuals enjoyed their work environments, or that the wages were acceptable to their two-income strategy. For most respondents, income has increased steadily overtime.

Employee Benefits. Most respondents were receiving employee benefits in their current jobs and considered this package an important aspect of their job selection and retention decisions. Many felt that benefits were less important when starting, but that family responsibilities increased the value of benefits. Ironically, individuals in the health care field were somewhat less concerned about benefits, possibly because they took them for granted. Others were less concerned with benefits in their employment because their spouse received a benefits package that included them.

Seniority. Seniority alone has not had a notable impact on career progression in these occupations. Only a few respondents were assigned a new job title/rank and responsibilities based solely on the number of years on the job. Experience, hard work, and continuous learning are more associated with success and career advancement, though time on-the-job is associated with these factors.

Final Advice. Successful individuals generally offered common sense advice to those who may be considering entry into an occupational area. Education, commitment, hard-work, compassion and communication were common themes. Prospective entrants were also encouraged to understand the requirements of the job and conditions of the work place, prior to making a full-fledge commitment to the occupation. While education and training generally provide the key to success, preliminary hands-on-experience is invaluable.

B. Career Progression

The study suggests that entry-level and apex occupations are concepts that are difficult to apply in contemporary workplace and labor market structures for several reasons. Education, training, personal attributes and commitment are factors that support individual advancement in an occupational field, and each of these factors can be associated with opportunity, as well as capacity, both of which may vary broadly among individuals. A minority of respondents held an entry-level job from which they progressed. The majority of respondents entered at an apex position and, in most occupations, continued to advance both in terms of professional growth and income. Similarly, to the degree that the concept can be applied, career progressions vary in time and space, reflecting workplace, organizational, and market structures.

C. Labor Markets

This exploratory study also provides a basis for preliminary observations about labor markets. Although these observations are limited by the small numbers of occupations and participants in the study, they nevertheless contribute to the ongoing dialogue in labor economics concerning education, training and livelihood prospects.

The study reinforces several inter-related processes commonly addressed by practitioners and researchers. First, labor markets are dynamic and quite fluid; they are anything but static. For example, patterns of occupational progress that characterized markets in earlier periods may no longer apply; educational requirements prior to entry and professional standards after employment are increasing in many occupations, while at the same time segmentation of the labor force within the organization may be increasing. Such "localized" changes within the workplace are frequently associated with structural changes that have been taking place in the global economy, particularly its more competitive nature. These changes have been described and analyzed carefully elsewhere and will continue to have important profound implications for patterns of success in various occupations.

Similarly, as mentioned in Section I, different patterns are evident between the public and private sectors, and between the union and non-union sectors, in terms of training, employment and occupational progression. Civil service and union-covered jobs tend to be sheltered somewhat from raw market forces and, thus, exhibit some of the expected patterns in terms of upward movement and earnings progression. Furthermore, access to continuous education and training at the workplace and/or through the labor organization combine to support career advancement. Such differences are, however, not absolute. The study has indicated that the career progression concept conforms well to the career advancement model identified by Auto Body Shop Managers. Moreover, Auto Body Repair is an occupation that provides services locally in a privileged industry of the domestic economy, and is therefore, to some degree, buffered from structural changes in the global economy.

Finally, the study suggests that occupational outlook varies widely, even among those fields exhibiting considerable earnings and career progression. Although some of the successful occupations studied here, particularly in the Health Care field, have developed work patterns over time that permit and support high earnings, as well as flexible and part-time employment, it is impossible to foresee whether such conditions will persist. For example, Dental Hygienists face potential displacement through the expansion of job responsibilities of less-trained, lower-paid Dental Assistants. In many other sectors of the economy (e.g. Retail Sales), part-time, flexible jobs tend to be associated with low wages and erratic work schedules.

D. Areas for Further Inquiry

Further investigations of career progressions can yield benefits in several applied contexts, including the areas of education and job training, career guidance, and labor

market analysis. Several topics of immediate inquiry might include the value of work experience prior to intensive training, the value of higher education for increasing human potential within and across occupations, and the effects of labor market restructuring on career progression. Results could help to inform youth employment and school-to-work programs, welfare-to-work programs, and other workforce development programs. Research could be assisted by the insertion of occupational identifiers in the Unemployment Insurance database to track career progressions.

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Attachment A

Occupation:
Number:
Date:
Interviewer:

Career Pathways:
Occupational Success Experiences
Interview Guide

INTRODUCTION

Thank you for agreeing to help us with this project. Researchers at the Center for the Study of Human Resources at The University of Texas-Austin are currently interviewing individuals, like yourself, who have trained for and been successful in certain occupational fields. We are collecting information regarding real-life pathways to occupational success for the Texas State Occupational Information Coordinating Committee, aka., SOICC. We want to talk with you briefly about your education, training, work experiences, and any special events or influences that have helped you achieve success (as a<occupation>) in your present field. We will document key features of your experiences that may be helpful to others who are thinking about entering your <occupation> type of work. SOICC will use this information for career guidance and further research.

Our conversation should take about thirty minutes. Your participation is completely voluntary and you may discontinue the interview at any time you wish. The discussion will remain confidential and you will not be personally identified in any subsequent analysis.

I'd like to mention that there are no right or wrong, better or worse answers to our questions. We are simply trying to capture your experiences in a structured way. Do you mind if I record this conversation?

Do you have any questions before we continue?

Background

Could you tell me a little about yourself? For starters, when were you born?

How many years of formal education (high school, college, postgraduate) have you completed?

We will return to this topic in a few minutes, but just to get the basics for now, I'd like to know what degrees or technical skills certificates you have and when you obtained them. Do you have … (Complete Table).

	Provider	Date Obtained
High School Diploma/GED		
Associate Degree		
College Degree		
Post-Graduate Degree		
Skills Training Certification		
STC 1		
STC 2		
Other		

How do you identify yourself in terms of race/ethnicity?

OCCUPATIONAL HISTORY

Current Occupation

I'd like to know some things about your work history. How long have you been a < Occupation>?

Have you been a < Occupation > with this current employer all that time?

Where else have you worked as a <Occupation >?

	Employer	Location	Years (Start/End Dates)
Job 1			
Job 2			
Job 3			
Etc.			

Do you receive employee benefits as a < Occupation >?

What would you say is required to be successful as a < Occupation >?

What is required or necessary in terms of:

Education (Initial and Continuing)?

Training?

Experience?

Other: What other personal skills or characteristics do you think are important to success as a <Occupation>?

Which factors are most important? Why?

How did you obtain the <identified factors> work-related education and/or training for your current position?

Education

DESCRIPTION	PROVIDER	FUNDING SOURCE
ED 1		
ED 2		
ED 3		
Etc.		

Training

DESCRIPTION	PROVIDER	FUNDING SOURCE
TR 1		
TR2		
TR 3		
Etc.		

Entry Position

When did you start working in the <occupational field>?

Do you recall your first job in the <occupational field>?

How did you become interested in this type of work?

Did you get any employee benefits as part of this first job?

Were there any special requirements to become a <Occupation>? Did you need any work-related education or training for this first job? Explain.

How did you obtain the <identified factors> work-related education and/or training for your entry position?

Education

DESCRIPTION	PROVIDER	FUNDING SOURCE
ED 1		
ED 2		
ED 3		
Etc.		

Training

DESCRIPTION	PROVIDER	FUNDING SOURCE
TR 1		
TR2		
TR 3		
Etc.		

Did you have to make any other type of personal investment to work as <Occupation>? (e.g., buy tools, uniforms, equipment, etc.) Explain.

How long did you keep this first job? Why did you leave?

Do you recall what your gross wages/salary per month or year was as an <Entry Occupation>?

How does that compare to your gross monthly or annual wages/salary today?

Interim Job History

I'd like to find out more about what other work you did between your first job <Occupation> in the <Occupational field> and your present job <Apex> and also find out a little about education and training you may have received to get or keep those jobs.

Have you had many different jobs since your first job as <Occupation>?

What occupational opportunities do you recall that were available to you after working as <Entry Occupation>?

What was your next job?

Can you recall approximately how long you held that job?

Did the job require additional education or training? Explain (what, how and result)

What occupational opportunities do you recall that were available to you after working as <Interim Occupation>?

(Repeat question sequence. Obtain Interim employment history. If there appears to be a long string of unrelated jobs, return focus upon jobs related to current occupational field.)

Position	Field	Tenure	Additional E&T Required	E&T Provider/ Fund	Certificate/ Degree	Occupational Options
Job 2						
Job 3						
Job 4						
(Job 5 Return to Field Only Jobs beyond Job 4)						
Job 5						

Final Comments

Looking back over your career:

At what points did job seniority affect your career advancement? For example, were you ever promoted, given new responsibilities and a job title based mostly on your years of experience?

Were you ever offered access to additional training by an employer that would result in a promotion? Explain.

Are there any specific events or circumstances (milestones?) in your work history that you feel particularly helped you to succeed?

Were employment benefits (health, vacation, pension, etc.) important in your job selection and retention decisions?

What are your prospects for further occupational advancement? (If appropriate) do you have a specific job in mind?

Do you need additional education, skills training, experience or other enhancements to obtain <Prospective Job>? Explain.

Do you have any final advice to impart upon those who want to work as <Occupation>?

Thank you very much for participating in this effort.

Also, do you personally know any other <Occupation> who may be interested in sharing their career pathways with us?

Name: Employer:

Phone Phone (Wk):

Summary Comments:

Attachment B

Contact Strategies for the Career Pathways Project

The Center research staff will utilize a multi-layered, flexible approach for contacting individuals at the apex of their careers as appropriate to each occupation.

Associations:

Professional Associations
Center researchers will contact Austin-based professional (occupational) associations, briefly explain the project, and request the following information:

1) Can they recommend any particularly active member(s) who may be willing to discuss their career path with one of the Center's researchers?
2) Can they recommend any specific strategies to recruit individual members of their association (e.g., a solicitation of participants on an electronic bulletin board).
3) Who are the major local employers of their members?

Employer Associations
Center researchers will contact Austin-based employer associations, briefly explain the project, and request the following information:

1) What local employers do they think would be most responsive to letting their employees participate in a project of this type?
2) Who are the prominent local employers of the targeted occupation in their association?

Training and Educational Providers

Center researchers will contact instructors at Community and Technical colleges as well as Proprietary schools that provide training for targeted occupational fields. Researchers will ask for personal referrals to successful former students in the targeted occupation who may be willing to discuss their career path with one of the Center's researchers. Researchers will also ask the instructors to identify key employers in the targeted occupation.

Informal Referrals

Center researchers will also utilize informal referrals. During interviews conducted with recruited volunteers obtained from any of the aforementioned methods, researchers will ask the volunteers to refer them to one or two associates in the field who may be willing to participate in the research (e.g., "snowballing"). Researchers will then contact the primary referral(s) and make the same request of him/her, to name one or two associates in the field who may be willing to participate. Researchers will not actually interview the primary referral(s) but rather the secondary referral otherwise known as "leap frogging." This process will continue until the requisite number of interviews have been completed.

Scatter Approach

Center researchers will contact employers provided from either associations or training and educational providers and request access to the organization. Researchers will post flyers about the research and request that anyone interested in sharing their career experiences show up during a predetermined time frame in a meeting area within the organization or contact the researcher to establish a convenient time and place to discuss their career pathway.

BEST COPY AVAILABLE